

MEMORANDUM

DATE: November 19, 2018
SUBJECT: Approval for Implementation of the Tronox Settlement Projects for FY2019
FROM: Chip Poalinelli, Tronox NAUM Coordinator, Region 9
Kevin Shade, Grants Mining District Coordinator, Region 6
TO: Will Duncan, Assistant Director, Superfund Division, Region 9
Chris Villarreal for
THRU: Ben Banipal, Branch Chief, Technical and Enforcement Branch, Region 6
SSID Nos.: A982

I. Introduction

The purpose of this memorandum is to request and document approval to spend \$8,000,000 of the Tronox funding (*In re: Tronox Incorporated, et al*, Case No. 09-10156 (Bankruptcy, S.D.N.Y)) for the following Region 9 Tronox Navajo Area Uranium Mine projects:

- *Risk Assessments and Engineering Evaluation/Cost Analysis (EE/CAs) for 34 Tronox Mines*
- *Evapotranspirative Cap Evaluation*
- *Cove Lithology Mapping*
- *Tronox Cove NAUM Treatability Study*

II. Background

The Tronox Navajo Area Uranium Mines (Tronox NAUM) are located primarily in the Grants Mining District in New Mexico and in the Northern and Eastern Regions of the Navajo Nation. The following provides background and justifications for funding the projects requested and documented in this FY2019 funding Memo.

During the March 2018 Tronox Managers Stakeholders meeting, USEPA presented the FY2019 proposed projects listed above and added a Government to Government Consultation to the Tronox Project Approval Process. On July 24, 2018, USEPA and Navajo Nation conducted a government-to-government consultation on the these FY2019 proposed projects and agreed to finalize them during the November 15/16, 2018, Tronox Joint Agency Meeting. On November 15, these FY2019 Projects were finalized. The following provides a description of the projects:

Risk Assessments and Engineering Evaluation/Cost Analysis (EE/CAs) for 34 Tronox Mines

Objective: The objective of this project is to use the 2018 Removal Site Evaluation information (providing extent and nature of contamination) to complete risk assessments and EE/CAs for 34 mines in the Northern AUM Region of the Navajo Nation. The EE/CA will develop the response options at these mines site to abate the threats to the public health and the environment to the benefit of the Navajo Nation. USEPA is currently developing a prioritization methodology for cleanup of the Tronox AUM site on or near Navajo Nation. Once the EE/CA are complete, prioritization will be determined using the results of the EE/CA and the Methodology.

Project Duration: Begin: Spring 2019 End: Fall 2020

Project Contracting Budget: \$7,000,000*

Evapotranspirative Cap Evaluation

Objective: The objective of this project is to evaluate the effectiveness of evapotranspirative caps, combined with long-term operation and maintenance, as an option for future cleanups. It might be best to leave remediation cells in place and upkeep them in perpetuity. However, choosing this option would require knowing that water was not percolating down past the remediation cell and into the groundwater table below. The same goes for new removal actions that would be using an evapotranspirative cap. The concern is transporting waste out of cell. In order to evaluate this possibility, an evapotranspiration evaluation is needed to see if water is percolating past the plants that are growing on a representative remediation cap.

Project Duration: Begin: Spring 2019 End: Spring 2020

Project Contracting Budget: \$200,000*

Cove Lithology Mapping

Objective: The objective of this project is to contract with an experienced stratigrapher to develop a map of the underground lithology in Cove for the purposes of helping to evaluate different waste removal/reduction options in the EE/CAs. The stratigrapher will use existing boring logs to develop the map.

Project Duration: Begin: Fall 2019 End: Fall 2020

Project Contracting Budget: \$300,000*

Tronox Cove NAUM Treatability Study

Objective: The objective of this project is to test technologies that could be viable cleanup options for the Cove mine sites. Treatability Studies test technologies at a small scale to verify if they are effective in field scenario. The technology tested in this project will be decided later, once the Removal Site Evaluations for Cove are received in December 2018. This project will provide information for Alternatives being evolved in the EE/CA.

Project Duration: Begin: Spring 2019 End: Summer 2020

Project Contracting Budget: \$500,000*

**Proposed Contracting Budget doesn't include USEPA and NNEPA payroll, site travel, expenses, or grants. These expenditures are tracked by project and reporting Quarterly as actual costs and as a percentage of the overall costs.*

III. Estimated Contract Funding for FY2019 Projects

The estimated contract funding for FY2019 projects is based on information currently available and the best estimates of the project team proposing the work. Estimated contract funding and scope for this project will be further defined during the work plan process. The estimated funding for FY2019 projects are summarized below:

Region	Project	Contracting Cost
Region 9	<i>Risk Assessments and Engineering Evaluation/Cost Analysis (EE/CAs) for 34 Tronox Mines</i>	\$7,000,000
Region 9	<i>Evapotranspirative Cap Evaluation</i>	\$200,000
Region 9	<i>Cove Lithology Mapping</i>	\$300,000
Region 9	<i>Tronox Cove NAUM Treatability Study</i>	\$500,000
Total Region 9 FY 2019 Funding		\$8,000,000

IV. Purpose/Justification

The purpose of this project is to investigate and propose alternatives to mitigate, reduce and/or eliminate the potential for human or ecological exposures to uranium/vanadium mining wastes at the Tronox NAUM settlement area mines on and impacting the Navajo Nation.

The activities and amounts noted above are based on an analysis by EPA Region 9 regarding the most urgent tasks to prepare for cleanup of the Tronox NAUM and the Quivira Mine Site, following consultation with the Navajo Nation and coordination with the State of New Mexico.

V. Anticipated Costs and Accounting

Future costs presented in this "Annual Funding Planning Memo" are estimates. Region 9 will be examining quarterly summaries of expenditures in order to further refine these estimates and determine whether supplemental funding will be needed for their efforts in FY2019. If additional funding is needed, the Tronox Coordinators will present a request for approval of supplemental funding, along with a justification and cost estimate.

VI. Approval for FY2019 Funding

The USEPA Tronox NAUM Coordinators recommend the FY2019 projects and estimated funding for the Tronox NAUM Special Account as described in Section III of this memo. Please indicate your approval or disapproval on the signature lines provided below. We look forward to responding to any questions or concerns.

APPROVED:



Will Duncan, Assistant Director, Superfund Division, Region 9

11/20/18

Date

NOT APPROVED:

Will Duncan, Assistant Director, Superfund Division, Region 9

Date